

What is claimed is:

1. An aquarium kit for fluorescent ornamental fish comprising:  
a tank; and  
an excitation light source, wherein said light source is mountable on said tank and said light source is configured to emit light at a wavelength selected to be optimal for causing an ornamental fish to fluoresce, wherein said ornamental fish expresses one or more fluorescent proteins at a level sufficient such that said fish fluoresces upon exposure to said excitation light source.
2. The aquarium kit of claim 1 wherein said light source is a blue light, a fluorescent light or an ultraviolet light.
3. The aquarium kit of claim 1 further comprising an ornamental fish which expresses one or more fluorescent proteins at a level sufficient such that said fish fluoresces upon exposure to said excitation light source.
4. The aquarium kit of claim 3 wherein said ornamental fish is a transgenic fish comprising one or more chimeric fluorescence genes encoding said one or more fluorescent proteins.
5. The aquarium kit of claim 4 wherein said light source is a blue light, a fluorescent light or an ultraviolet light.

6. The aquarium kit of claim 4 wherein said ornamental fish comprises a GFP.
7. The aquarium kit of claim 4 wherein said ornamental fish comprises an EGFP.
8. The aquarium kit of claim 4 wherein said ornamental fish comprises a BFP.
9. The aquarium kit of claim 4 wherein said ornamental fish comprises a coral fluorescent protein.
10. The aquarium kit of claim 4 wherein said ornamental fish comprises a EBFP.
11. The aquarium kit of claim 4 wherein said ornamental fish comprises a YFP or EYFP.
12. The aquarium kit of claim 4 wherein said ornamental fish comprises a CFP or ECFP.
13. The aquarium kit of claim 4 wherein said ornamental fish is a stable transgenic fish line obtained by a method comprising the steps of:

- (a) obtaining an ornamental transgenic fish comprising one or more chimeric fluorescence genes positioned under the control of a promoter, wherein the transgenic fish expresses one or more fluorescent proteins encoded by the one or more fluorescence genes at a level sufficient such that said fish fluoresces upon exposure to an excitation light source; and
- (b) breeding the ornamental transgenic fish with a second fish to obtain offspring; and
- (c) selecting from said offspring a stable transgenic line that expresses one or more fluorescent proteins.

14. The aquarium kit of claim 4 wherein the ornamental transgenic fish is a transgenic zebrafish, medaka, goldfish, carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

15. The aquarium kit of claim 13 wherein the ornamental transgenic fish is a transgenic zebrafish, medaka, goldfish, carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

16. The aquarium kit of claim 13 wherein the second fish is a zebrafish, medaka, goldfish or carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

17. The aquarium kit of claim 15 wherein the second fish is a zebrafish, medaka, goldfish or carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

18. The aquarium kit of claim 1 further comprising a second excitation light source which emits light of different wavelength than said excitation light source.

19. The aquarium of claim 17 wherein said first excitation light source is located on a first side of said tank and said second excitation light source is located on the opposite side of said tank.

20. The aquarium kit of claim 3 wherein said ornamental transgenic fish expresses more than one fluorescent protein and said fluorescent proteins have different colors.

21. The aquarium kit of claim 3 wherein said tank comprises one or more dividers which divide said tank into two or more chambers.

22. The aquarium kit of claim 1 wherein said fish is bio-luminescent.

23. The aquarium kit of claim 3 wherein said fish is bio-luminescent.

24. The aquarium kit of claim 1 further comprising one or more of gravel, a water heating element, a plant and an aeration unit.

25. An aquarium kit for fluorescent ornamental fish comprising:

a tank;

an ornamental fish which expresses one or more fluorescent proteins at a level sufficient such that said fish fluoresces upon exposure to an excitation light source;

an excitation light source, wherein said light source is mountable on said tank and said light source is configured to emit light at a wavelength which excites said one or more fluorescent proteins.

26. The aquarium kit of claim 24 wherein said light source is a blue light, a fluorescent light or an ultraviolet light.

27. The aquarium kit of claim 24 wherein said ornamental fish is a transgenic fish comprising one or more chimeric fluorescence genes encoding said one or more fluorescent proteins.

28. The aquarium kit of claim 27 wherein said light source is a blue light, a fluorescent light or an ultraviolet light.

29. The aquarium kit of claim 27 wherein said ornamental fish comprises a GFP.

30. The aquarium kit of claim 27 wherein said ornamental fish comprises an EGFP.

31. The aquarium kit of claim 27 wherein said ornamental fish comprises a BFP.
32. The aquarium kit of claim 27 wherein said ornamental fish comprises a coral fluorescent protein.
33. The aquarium kit of claim 27 wherein said ornamental fish comprises a EBFP.
34. The aquarium kit of claim 27 wherein said ornamental fish comprises a YFP or EYFP.
35. The aquarium kit of claim 27 wherein said ornamental fish comprises a CFP or ECFP.
36. The aquarium kit of claim 27 wherein said ornamental fish is a stable transgenic fish line obtained by a method comprising the steps of:
- (a) obtaining an ornamental transgenic fish comprising one or more chimeric fluorescence genes positioned under the control of a promoter, wherein the transgenic fish expresses one or more fluorescent proteins encoded by the one or more fluorescence genes at a level sufficient such that said fish fluoresces upon exposure to an excitation light source; and
  - (b) breeding the ornamental transgenic fish with a second fish to obtain offspring; and
  - (c) selecting from said offspring a stable transgenic line that expresses one or more fluorescent proteins.

37. The aquarium kit of claim 27 wherein the ornamental transgenic fish is a transgenic zebrafish, medaka, goldfish, carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

38. The aquarium kit of claim 36 wherein the ornamental transgenic fish is a transgenic zebrafish, medaka, goldfish, carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

39. The aquarium kit of claim 36 wherein the second fish is a zebrafish, medaka, goldfish or carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

40. The aquarium kit of claim 37 wherein the second fish is a zebrafish, medaka, goldfish or carp, koi, loach, tilapia, glassfish, catfish, angel fish, discus, eel, tetra, goby, gourami, guppy, Xiphophorus, hatchet fish, Molly fish, or pangasius.

41. The aquarium kit of claim 25 further comprising a second excitation light source which emits light of different wavelength than said excitation light source.

42. The aquarium of claim 40 wherein said first excitation light source is located on a first side of said tank and said second excitation light source is located on the opposite side of said tank.

43. The aquarium kit of claim 25 wherein said ornamental transgenic fish expresses more than one fluorescent protein and said fluorescent proteins have different colors.

44. The aquarium kit of claim 25 wherein said tank comprises one or more dividers which divide said tank into two or more chambers.

45. The aquarium kit of claim 25 wherein said fish is bio-luminescent.

46. The aquarium kit of claim 25 further comprising gravel, a water heating element, a plant and an aeration unit.